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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,207	12/22/2000	Gary Lee Diven	PU000168	1078

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Joseph S. Tripoli
Thomson Multimedia Licensing Inc.
Patent Operation
Two Independence Way, P. O. Box 5312
Princeton, NJ 08543-5312

EXAMINER

KEANEY, ELIZABETH MARIE

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/747,207

Applicant(s)

DIVEN ET AL.

Examiner

Elizabeth Gemmell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 1, 3-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Receipt is acknowledged of amendments filled

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashiba et al (US Patent 4,780,641; hereinafter Hashiba) in view of Ito et al. (US Patent 5,672,935; hereinafter Ito).

Re claim 1: Hashiba discloses, in figure 5 and throughout the disclosure, an apparatus for retaining a damper wire on a grill type mask assembly in a cathode ray tube comprising:

- a grill type mask assembly having a frame (13) and a mask (3);
- a damper spring (21) having a first metallic layer disposed on a second metallic layer (column 3, lines 20+),
- the damper spring having a first and an opposing second end, wherein the second end is coupled to the frame (column 2, lines 26+);
- and a tab (22) is formed on the damper spring and adapted to accept the damper wire that traverses the mask, wherein the damper wire is coupled between the tab and the damper spring (column 4, lines 2-3 and column 3, line 21).

Although Hashiba is silent in regards to the material the first layer is made of, one of ordinary skill in the art would recognize that since Hashiba does disclose seam welding the stainless steel strip to the spring, the first layer would have to be metallic because seam welding can only occur between two metal pieces.

Hashiba fails to disclose the first metallic layer being materially different from the second metallic layer.

Ito discloses a first metallic layer being of a high expansion coefficient metal and a second metallic layer being of a low expansion coefficient metal, which are therefore materially different.

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the damper spring disclosed by Hashiba with that of Ito because by using two materially different metallic layers, the spring is able to have a temperature correction mechanism (column 1, lines 34+). By having a temperature correction mechanism, the spring is able to be pliable when the temperature rises in the cathode ray tube yet be ridged enough to keep the damper wire taut in order to prevent damage to the cathode ray tube from a vibration of the mask.

Re claims 3: Hashiba shows all the limitations as seen above.

However, Hashiba fails to disclose the first metallic layer comprising carbon steel.

Ito discloses a first metallic layer comprised of a low expansion layer.

One of ordinary skill in the art at the time the invention was made would recognize that carbon steel is a low expansion metal. Therefore, one of ordinary skill in the art at the time the invention was made would have been motivated to combine the damper spring disclosed by Hashiba with that of Ito because by using a low expansion metal such as carbon steel, the damper spring is more pliable with the high temperatures within the tube. When the higher temperatures exist within the tube, the tension of the mask is developed and the displacement is secured.

Re claim 4: Hashiba discloses, in column 3, line 21, the second metallic layer comprised of stainless steel.

Re claim 5: Hashiba discloses, in figure 3 and throughout the disclosure, the first metallic layer disposed on the inner surface of the damper spring (21) for allowing the damper spring to curl inward and unload the damper wire during high temperatures.

Re claim 6: Hashiba discloses, in figure 3 and throughout the disclosure, the second metallic layer disposed on an outer surface of the damper spring for allowing the damper spring to exert tension on the damper wire during normal operating temperature (7).

Re claim 7: Hashiba discloses, in figure 3 and throughout the disclosure, the first end of the damper spring having a curvature perpendicular to the first end of the

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damper spring, for allowing the damper wire attached to the tab to have a controllable elevation with respect to the mask.

Re claim 8: Hashiba discloses, in column 3, lines 20+, the damper wire coupled between the tab and the damper spring by welding the damper wire to the tab and the damper spring.

Re claim 10: Hashiba discloses, in figure 3 and throughout the disclosure, an apparatus for retaining a damper wire proximate a grill type mask assembly in a cathode ray tube comprising:

- a mask assembly having a frame (13) and a mask (3);
- a damper spring (21) comprising a first end having a curvature and an opposing second end, wherein the second end is coupled to the frame, the curvature having an apex facing away from and aligned with an edge of the mask for adjustably defining an elevation level of the damper wire with respect to the mask (column 2, lines 27-28).

The examiner has defined the apex of the curvature of the damper spring to be, as shown in figures 3 and 4, the point of damper spring (21) which is curved furthest from the vertical 90 degree position. This apex is indeed facing away from the mask.

Response to Arguments

Applicant's arguments with respect to claims 1,3-8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Hashiba fails to teach the damper wire coupled between a tab and a first and second metallic layers. The examiner respectfully disagrees. Hashiba does teach the damper wire coupled between the tab and the damper spring (as shown above).

Allowable Subject Matter

Claim 9 remains objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 11-14 are allowable over the prior art.

Statement of allowability: Re claim 9, the reason for allowability is found in the office action dated 26 June 2003.

Re claims 11-14: The best prior art of record discloses a grill type mask assembly in a cathode ray tube wherein a damper spring is coupled to a mask having, wherein the damper springs has two layers of differing coefficients of thermal expansion. However, the best prior art of record fails to teach or fairly suggest the second layer of material substantially covering the first layer of differing thermal

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coefficient material as claimed in claim 11. Claims 12-14 are allowable by virtue of their dependency.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


emg


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER